

SEQUENCE LISTING

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YATOMI, Takehiro
SUDA, Takashi

<120> PROPHYLACTIC/THERAPEUTIC AGENT

<130> 1110-235P

<140> 09/297,328
<141> 1999-04-29

<150> PCT/JP97/03978
<151> 1997-10-31

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<170> PatentIn Ver. 2.0

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ggt acc aga tgt gat atc cag atg aca cag act aca tcc tcc ctg tct 96
Gly Thr Arg Cys Asp Ile Gln Met Thr Gln Thr Ser Ser Leu Ser
20 25 30

gcc tct ctg gga gac aga gtc acc atc agt tgc agg gcc agt cag gac 144
Ala Ser Leu Gly Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp
35 40 45

att agc aat tat tta aac tgg tat cag cag aaa cca gat gga act gtt 192
Ile Ser Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val
50 55 60

aaa ctc ctg atc tac tac aca tca aga tta cac tca gga gtc cca tca 240
Lys Leu Leu Ile Tyr Tyr Thr Ser Arg Leu His Ser Gly Val Pro Ser
65 70 75 80

agg ttc agt ggc agt ggg tct ggg aca aat tat tct ctc acc att agc 288
Arg Phe Ser Gly Ser Gly Thr Asn Tyr Ser Leu Thr Ile Ser
85 90 95

aac ctg gaa caa gga gat att gcc act tac ttt tgc caa cag ggt agt 336
Asn Leu Glu Gln Gly Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Ser
100 105 110

acg ctt ccg tgg acg ttc ggt gga ggc acc aag ctg gaa atc aaa 381
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35 40 45
Ile Ser Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val
50 55 60
Lys Leu Leu Ile Tyr Tyr Thr Ser Arg Leu His Ser Gly Val Pro Ser
65 70 75 80
Arg Phe Ser Gly Ser Gly Thr Asn Tyr Ser Leu Thr Ile Ser
85 90 95
Asn Leu Glu Gln Gly Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Ser
100 105 110
Thr Leu Pro Trp Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys
115 120 125

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gcc caa gca cag atc cag ttg gtg cag tct gga cct gag ctg aag aag 96
Ala Gln Ala Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys
20 25 30
cct gga gag aca gtc aag atc tcc tgc aag gct tct ggg tat acc ttc 144
Pro Gly Glu Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe

35	40	45	
aca gaa tat cca atg cac tgg gtg aag cag gct cca gga aag ggt ttc Thr Glu Tyr Pro Met His Trp Val Lys Gln Ala Pro Gly Lys Gly Phe	50	55	192
		60	
aag tgg atg ggc atg ata tac acc gac act gga gag cca tca tat gct Lys Trp Met Gly Met Ile Tyr Thr Asp Thr Gly Glu Pro Ser Tyr Ala	65	70	240
		75	80
gaa gag ttc aag ggg cggtt gcc ttc tct ttg gag acc tct gcc agc Glu Glu Phe Lys Gly Arg Phe Ala Phe Ser Leu Glu Thr Ser Ala Ser	85	90	288
		95	
act gcc tat ttg cag atc aac ttc ctc aaa aat gag gac acg gct aca Thr Ala Tyr Leu Gln Ile Asn Phe Leu Lys Asn Glu Asp Thr Ala Thr	100	105	336
		110	
tat ttc tgt gta aga ttt tac tgg gat tac ttt gac tac tgg ggc caa Tyr Phe Cys Val Arg Phe Tyr Trp Asp Tyr Phe Asp Tyr Trp Gly Gln	115	120	384
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ggc acc act ctc aca gtc tcc tca Gly Thr Thr Leu Thr Val Ser Ser	130	135	408
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			15
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Pro Gly Glu Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe	35	40	45
Thr Glu Tyr Pro Met His Trp Val Lys Gln Ala Pro Gly Lys Gly Phe	50	55	60
Lys Trp Met Gly Met Ile Tyr Thr Asp Thr Gly Glu Pro Ser Tyr Ala	65	70	75
			80
Glu Glu Phe Lys Gly Arg Phe Ala Phe Ser Leu Glu Thr Ser Ala Ser	85	90	95
Thr Ala Tyr Leu Gln Ile Asn Phe Leu Lys Asn Glu Asp Thr Ala Thr	100	105	110
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gga tca acc gga gat att cag atg acc cag agt ccg tcg acc ctc tct 96
Gly Ser Thr Gly Asp Ile Gln Met Thr Gln Ser Pro Ser Thr Leu Ser
20 25 30

gct agc gtc ggg gat agg gtc acc ata act tgc agg gca agt cag gac 144
Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp
35 40 45

att tcg aat tat tta aac tgg tat cag cag aag cca ggc aaa gct ccc 192
Ile Ser Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
50 55 60

aag ctt cta att tat tac aca tca aga tta cac tca ggg gta cct tca 240
Lys Leu Leu Ile Tyr Tyr Thr Ser Arg Leu His Ser Gly Val Pro Ser
65 70 75 80

cgc ttc agt ggc agt gga tct ggg acc aat tat acc ctc aca atc tcg 288
Arg Phe Ser Gly Ser Gly Thr Asn Tyr Thr Leu Thr Ile Ser
85 90 95

agt ctg cag cca gat gat ttc gcc act tat ttt tgc caa cag ggt agt 336
Ser Leu Gln Pro Asp Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Ser
100 105 110

acg ctt ccg tgg acg ttc ggt cag ggg acc aag gtg gag gtc aaa 381
Thr Leu Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Val Lys
115 120 125

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Ile Ser Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro		
50	55	60
Lys Leu Leu Ile Tyr Tyr Ser Arg Leu His Ser Gly Val Pro Ser		
65	70	75
Arg Phe Ser Gly Ser Gly Thr Asn Tyr Thr Leu Thr Ile Ser		
85	90	95
Ser Leu Gln Pro Asp Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Ser		
100	105	110
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1	5	10
15		
gcc caa gca cag gtc cag ttg gtg cag tct gga gct gag gtg aag aag 96		
Ala Gln Ala Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys		
20	25	30
cct gga agc tca gtc aag gtg tcc tgc aaa gct tct ggg tat acc ttc 144		
Pro Gly Ser Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe		
35	40	45
aca gaa tat cca atg cac tgg gtg aga cag gct cca gga cag ggt ttc 192		
Thr Glu Tyr Pro Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Phe		
50	55	60
aag tgg atg ggc atg ata tac acc gac act gga gag cca tca tat gct 240		
Lys Trp Met Gly Met Ile Tyr Thr Asp Thr Gly Glu Pro Ser Tyr Ala		
65	70	75
80		
gaa gag ttc aag gga cgg ttt aca ttc act ttg gac acc tct acc aac 288		
Glu Glu Phe Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Asn		
85	90	95
act gcc tat atg gag ctc agc tct ctc agg tct gag gac acg gct gtc 336		
Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val		

100	105	110		
tat tac tgt gta aga ttt tac tgg gat tac ttt gac tac tac tgg ggt caa			384	
Tyr	Tyr	Cys	Val Arg Phe Tyr Trp Asp Tyr Phe Asp Tyr Trp Gly Gln	
115			120	125
ggt acc ctg gtc aca gtc tcc tca			408	
Gly	Thr	Leu	Val Thr Val Ser Ser	
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20	25		30	
Pro Gly Ser Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe				
35	40	45		
Thr Glu Tyr Pro Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Phe				
50	55	60		
Lys Trp Met Gly Met Ile Tyr Thr Asp Thr Gly Glu Pro Ser Tyr Ala				
65	70	75	80	
Glu Glu Phe Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Asn				
85	90	95		
Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val				
100	105	110		
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115	120	125		
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Leu Leu Pro Leu Val Leu Thr Ser Val Ala Thr Gln Asn Leu Glu Gly		
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ctg cat cat gat ggc caa ttc tgc cat aag ccc tgt cct cca ggt gaa		149
Leu His His Asp Gly Gln Phe Cys His Lys Pro Cys Pro Pro Gly Glu		
25	30	35
agg aaa gct agg gac tgc aca gtc aat ggg gat gaa cca gac tgc gtg		197
Arg Lys Ala Arg Asp Cys Thr Val Asn Gly Asp Glu Pro Asp Cys Val		
40	45	50
ccc tgc caa gaa ggg aag gag tac aca gac aaa gcc cat ttt tct tcc		245
Pro Cys Gln Glu Gly Lys Glu Tyr Thr Asp Lys Ala His Phe Ser Ser		
55	60	65
aaa tgc aga aga tgt aga ttg tgt gat gaa gga cat ggc tta gaa gtg		293
Lys Cys Arg Arg Cys Arg Leu Cys Asp Glu Gly His Gly Leu Glu Val		
75	80	85
gaa ata aac tgc acc cgg acc cag aat acc aag tgc aga tgt aaa cca		341
Glu Ile Asn Cys Thr Arg Thr Gln Asn Thr Lys Cys Arg Cys Lys Pro		
90	95	100
aac ttt ttt tgt aac tct act gta tgt gaa cac tgt gac cct tgc acc		389
Asn Phe Phe Cys Asn Ser Thr Val Cys Glu His Cys Asp Pro Cys Thr		
105	110	115
aaa tgt gaa cat gga atc atc aag gaa tgc aca ctc acc agc aac acc		437
Lys Cys Glu His Gly Ile Ile Lys Glu Cys Thr Leu Thr Ser Asn Thr		
120	125	130
aag tgc aaa gag gaa gga tcc aga tct aac gag ccc aaa tct tgt gac		485
Lys Cys Lys Glu Glu Gly Ser Arg Ser Asn Glu Pro Lys Ser Cys Asp		
135	140	145
150		
aaa act cac aca tgc cca ccg tgc cca gca cct gaa ctc ctg ggg gga		533
Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly		
155	160	165
ccg tca gtc ttc ctc ttc ccc cca aaa ccc aag gac acc ctc atg atc		581
Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile		
170	175	180
tcc cgg acc cct gag gtc aca tgc gtg gtg gtg gac gtg agc cac gaa		629
Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu		
185	190	195
gac cct gag gtc aag ttc aac tgg tac gtg gac ggc gtg gag gtg cat		677
Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His		
200	205	210
aat gcc aag aca aag ccg cgg gag gag cag tac aac agc acg tac cgt		725
Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg		
215	220	225
230		

gtg gtc agc gtc ctc acc gtc ctg cac cag gac tgg ctg aat ggc aag		773	
Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys			
235	240	245	
gag tac aag tgc aag gtc tcc aac aaa gcc ctc cca gcc ccc atc gag		821	
Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu			
250	255	260	
aaa acc atc tcc aaa gcc aaa ggg cag ccc cga gaa cca cag gtg tac		869	
Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr			
265	270	275	
acc ctg ccc cca tcc cg ^g gat gag ctg acc aag aac cag gtc agc ctg		917	
Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu			
280	285	290	
acc tgc ctg gtc aaa ggc ttc tat ccc agc gac atc gcc gtg gag tgg		965	
Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp			
295	300	305	310
gag agc aat ggg cag cc ^g gag aac aac tac aag acc acg cct ccc gtg		1013	
Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val			
315	320	325	
ctg gac tcc gac ggc tcc ttc ctc tac agc aag ctc acc gtg gac		1061	
Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp			
330	335	340	
aag agc agg tgg cag cag ggg aac gtc ttc tca tgc tcc gtg atg cat		1109	
Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His			
345	350	355	
gag gct ctg cac aac cac tac acg cag aag agc ctc tcc ctg tct cc ^g		1157	
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Gly Lys			
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Pro Cys Pro Pro Gly Glu Arg Lys Ala Arg Asp Cys Thr Val Asn Gly			
35	40	45	

Asp Glu Pro Asp Cys Val Pro Cys Gln Glu Gly Lys Glu Tyr Thr Asp
50 55 60

Lys Ala His Phe Ser Ser Lys Cys Arg Arg Cys Arg Leu Cys Asp Glu
65 70 75 80

Gly His Gly Leu Glu Val Glu Ile Asn Cys Thr Arg Thr Gln Asn Thr
85 90 95

Lys Cys Arg Cys Lys Pro Asn Phe Phe Cys Asn Ser Thr Val Cys Glu
100 105 110

His Cys Asp Pro Cys Thr Lys Cys Glu His Gly Ile Ile Lys Glu Cys
115 120 125

Thr Leu Thr Ser Asn Thr Lys Cys Lys Glu Glu Gly Ser Arg Ser Asn
130 135 140

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
145 150 155 160

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
165 170 175

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
180 185 190

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
195 200 205

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
210 215 220

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
225 230 235 240

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
245 250 255

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
260 265 270

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
275 280 285

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
290 295 300

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
305 310 315 320

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
325 330 335

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
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355 360 365

Ser Leu Ser Leu Ser Pro Gly Lys
370 375

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Leu Leu Pro Leu Val Leu Thr Ser Val Ala Thr Gln Asn Leu Glu Gly
10 15 20

ctg cat cat gat ggc caa ttc tgc cat aag ccc tgt cct cca ggt gaa 149
Leu His His Asp Gly Gln Phe Cys His Lys Pro Cys Pro Pro Gly Glu
25 30 35

agg aaa gct agg gac tgc aca gtc aat ggg gat gaa cca gac tgc gtg 197
Arg Lys Ala Arg Asp Cys Thr Val Asn Gly Asp Glu Pro Asp Cys Val
40 45 50

ccc tgc caa gaa ggg aag gag tac aca gac aaa gcc cat ttt tct tcc 245
Pro Cys Gln Glu Gly Lys Glu Tyr Thr Asp Lys Ala His Phe Ser Ser
55 60 65 70

aaa tgc aga aga tgt aga ttg tgt gat gaa gga cat ggc tta gaa gtg 293
Lys Cys Arg Arg Cys Arg Leu Cys Asp Glu Gly His Gly Leu Glu Val
75 80 85

gaa ata aac tgc acc cgg acc cag aat acc aag tgc aga tgt aaa cca 341
Glu Ile Asn Cys Thr Arg Thr Gln Asn Thr Lys Cys Arg Cys Lys Pro
90 95 100

aac ttt ttt tgt aac tct act gta tgt gaa cac tgt gac cct tgc acc 389
Asn Phe Phe Cys Asn Ser Thr Val Cys Glu His Cys Asp Pro Cys Thr
105 110 115

aaa tgt gaa cat gga atc atc aag gaa tgc aca ctc acc agc aac acc 437
Lys Cys Glu His Gly Ile Ile Lys Glu Cys Thr Leu Thr Ser Asn Thr
120 125 130

aag tgc aaa gag gaa gga tcc aga tct aac gag ccc aaa tct tgt gac 485
Lys Cys Lys Glu Glu Gly Ser Arg Ser Asn Glu Pro Lys Ser Cys Asp
135 140 145 150

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Lys Thr His Thr Cys Pro Pro Cys Pro
155 160

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Pro Cys Pro Pro Gly Glu Arg Lys Ala Arg Asp Cys Thr Val Asn Gly
35 40 45

Asp Glu Pro Asp Cys Val Pro Cys Gln Glu Gly Lys Glu Tyr Thr Asp
50 55 60

Lys Ala His Phe Ser Ser Lys Cys Arg Arg Cys Arg Leu Cys Asp Glu
65 70 75 80

Gly His Gly Leu Glu Val Glu Ile Asn Cys Thr Arg Thr Gln Asn Thr
85 90 95

Lys Cys Arg Cys Lys Pro Asn Phe Phe Cys Asn Ser Thr Val Cys Glu
100 105 110

His Cys Asp Pro Cys Thr Lys Cys Glu His Gly Ile Ile Lys Glu Cys
115 120 125

Thr Leu Thr Ser Asn Thr Lys Cys Lys Glu Glu Gly Ser Arg Ser Asn
130 135 140

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
145 150 155